

COMMUNICATION RELATING TO THE RESULTS
OF THE PARTIAL INTERNATIONAL SEARCH

International Application No

PCT/EP 01/15254

1. The present communication is an Annex to the invitation to pay additional fees (Form PCT/ISA/206). It shows the results of the international search established on the parts of the international application which relate to the invention first mentioned in claims Nos.:

1-6, 15-18, 23-26

2. This communication is not the international search report which will be established according to Article 18 and Rule 43.

3. If the applicant does not pay any additional search fees, the information appearing in this communication will be considered as the result of the international search and will be included as such in the international search report.

4. If the applicant pays additional fees, the international search report will contain both the information appearing in this communication and the results of the international search on other parts of the international application for which such fees will have been paid.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 01, 31 January 2000 (2000-01-31) -& JP 11 283216 A (TDK CORP), 15 October 1999 (1999-10-15) abstract the whole document	1-6, 15-18, 23-26
P, X	-& US 6 260 256 B1 (SASAKI) 17 July 2001 (2001-07-17) the whole document	1-6, 15-18, 23-26
X	----- PATENT ABSTRACTS OF JAPAN vol. 014, no. 542 (P-1137), 30 November 1990 (1990-11-30) & JP 02 230505 A (NEC CORP), 12 September 1990 (1990-09-12) abstract	15
A	----- US 5 356 478 A (LIU DAVID ET AL) 18 October 1994 (1994-10-18) the whole document	1
A	----- US 5 846 441 A (ROH JAE-WOO) 8 December 1998 (1998-12-08) column 2, line 55 -column 3, line 46; claims	1, 15
A	----- US 5 047 115 A (CHARLET BARBARA ET AL) 10 September 1991 (1991-09-10) -----	

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Patent Family Annex
Information on patent family members

International Application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 11283216	A	15-10-1999	US 6260256 B1 17-07-2001
		US 2001010614 A1	02-08-2001
JP 02230505	A	12-09-1990	JP 2702215 B2 21-01-1998
US 5356478	A	18-10-1994	DE 69320963 D1 15-10-1998
		DE 69320963 T2 12-05-1999	
		EP 0647163 A1 12-04-1995	
		JP 7508313 T 14-09-1995	
		WO 9400251 A1 06-01-1994	
US 5846441	A	08-12-1998	KR 170949 B1 30-03-1999
		CN 1177169 A 25-03-1998	
		JP 9115111 A 02-05-1997	
US 5047115	A	10-09-1991	FR 2616030 A1 02-12-1988
		DE 3873337 D1 03-09-1992	
		DE 3873337 T2 11-02-1993	
		EP 0359777 A1 28-03-1990	
		WO 8809830 A1 15-12-1988	

PATENT COOPERATION TREATY

From the:
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

WRITTEN OPINION

(PCT Rule 66)

To:
Kauffmann, Wolfgang
IBM DEUTSCHLAND GMBH
Intellectual Property
Pascalstrasse 100
D-70548 Stuttgart
ALLEMAGNE

Date of mailing
(day/month/year) 21.03.2003

Applicant's or agent's file reference
SJ0920000067

REPLY DUE within 1 month(s)
from the above date of mailing

International application No.
PCT/EP01/15254

International filing date (day/month/year)
21/12/2001

Priority date (day/month/year)
16/01/2001

International Patent Classification (IPC) or both national classification and IPC
G11B5/17

Applicant
INTERNATIONAL BUSINESS MACHINES CORPORATION et al

7: 21.4.03

1. This written opinion is the first drawn up by this International Preliminary Examining Authority.

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2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain document cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

keine Antwort

3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also: For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 16/05/2003.

Name and mailing address of the international preliminary examining authority:

European Patent Office
D-80298 Munich
Tel +49 89 2399 - 0 Tx: 523656 epmu d

Authorized officer / Examiner

A. Moje

Formalities officer (incl. extension of time limits)
Slater, S



WRITTEN OPINION

International application No. PCT/EP01/15254

I. Basis of the opinion

1. With regard to the elements of the international application (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed"):

Description, pages:

1-14 as originally filed

Claims, No.:

1-30 as originally filed

Drawings, sheets:

1/5-5/5 as originally filed

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

WRITTEN OPINION

International application No. PCT/EP01/15254

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability.

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been and will not be examined in respect of:

☐ the entire international application,

☒ claims Nos. 7-14, 19-22, 27-30,

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for the said claims Nos. 7-14, 19-22, 27-30.

2. A written opinion cannot be drawn due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N) Claims 1-4, 6, 15-18 (no)

Inventive step (IS) Claims 5, 23-26 (no)

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International application No. PCT/EP01/15254

Industrial applicability (IA) Claims

2. Citations and explanations
s e separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

D1*: JP -A- 11 283 216 & corresponding US -B- 6 260 256

D2 : US -A- 5 356 478

D3 : JP -A- 02 230 505 & corresponding abstract

* The pertinent passages are cited from US -B- 6 260 256 which is corresponding to the Japanese patent publication. It is assumed that the text accompanying the figures is comparable.

2. The subject-matter of claims 1-4, 6 and 15-18 is not new for the following reasons:

2.1 D1 discloses a method for fabricating a magnetic head comprising the steps of :

-fabricating a write head portion of said magnetic head, including the steps of:

-fabricating and/or depositing according to the features of claims 1-4 and 6 a first magnetic pole (36); an insulation layer (37); a seed layer (38) consisting of tungsten and titanium (cf. column 8, l. 28-51) which has a thickness of 500-1000 Å (cf. column 7, l. 24-27) and is formed by sputter deposition (cf. column 7, l. 16-28); the seed layer includes upper and lower portions (cf. column 8, l. 36-51) as specified in claim 6; and an induction coil (41) composed of copper; wherein portions of the seed layer are removed by using an RIE (reactive ion etching) process (cf. column 7, l. 45-47) using a fluorine species (fluorine gas) and wherein it is implicit for the skilled person that the seed layer material forms a gaseous compound with said fluorine gas.

From this follows that the features of claims 1-4 and 6 are known from D1.

2.2 The subject-matter of claims 15-17 does not extend beyond claims 1-6 in

apparatus terms.

- 2.3 In addition it is referred to D3, which apparently discloses the subject-matter of claim 15.
- 2.4 The additional features of claim 18 are also known from D1 (cf. column 8, l. 36-42).
- 2.5 Therefore, the subject-matter of claims 1-4, 6 and 15-18 does not satisfy the criterion set forth in Article 33(2) PCT.
3. The subject-matter of claims 5 and 23-26 does not involve an inventive step for the reasons explained hereinafter:
- 3.1 The additional features of claim 5 are known from D2, which discloses to utilize in the RIE process CF₄ or C₂F₆ (cf. column 5, l. 36-39). Hence, it would be obvious for the skilled person to use these gaseous compounds in D1.
- 3.2 The magnetic head of D1 may be obviously used for which it is fabricated, namely for a hard disk drive with a flying type of magnetic head, thus arriving at the subject-matter of claims 23-26.
- 3.3 Therefore, claims 5 and 23-26 do not satisfy the criterion set forth in Article 33(3) PCT.